Before the
Federal Communications Commission
Washington, D.C.

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| In the Matter of | ) | ET Docket No. 03-104 |
| Inquiry Regarding Carrier Current Systems | ) | |
| Including Broadband over Power Line Systems | ) | |

# Reply Comments of the IEEE Power System Relaying Committee

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## Introduction:

The Power System Relaying Committee ("PSRC") of the Institute of Electronic and Electrical Engineers ("IEEE") submits these comments on the Commission's Notice of Inquiry ("NOI") in ET Docket No. 03-104. The PSRC provides expertise in the form of guides, standards, recommended practices and papers to the power system protection groups in electrical utilities. Power system protection functional groups are responsible for continuity of safe electrical service, by minimizing outages and equipment due to both natural and man-made electrical disturbances.

The NOI is a request for technical information to make sure that Broadband over Power Line ("BPL"), if deployed, will harmonize with existing services. The Commission has recognized that the current Part 15 regulations may not be sufficient to permit the implementation of broadband technologies over power lines without disruption to existing licensed and non-licensed services. The Commission is seeking recommendations for changes to Part 15 to promote and encourage BPL technology. The inquiry is not a request for information on the technical viability of or public need for BPL technology. Therefore, these comments are based on the assumption that BPL technology is viable for overhead and underground distribution system applications and that the test results from the pilot trials have warranted this inquiry.

## Comments:

The NOI inquires if and how Part 15 should be changed to promote BPL and protect licensed users. Upon review of the comments filed by the utility industry and the BPL vendors, there are statements that the systems under trial are operating in compliance with current Part 15 rules. Therefore, there should be adequate opportunity to verify if Part 15 is sufficient to protect against harmful interference.

PSRC's initial comments in this docket were based on the speculation of interference and potential remedies by changing Part 15. PSRC suggested that notches should be used if levels above those stated in Part 15. Apparently the comments, both for and against BPL, describe no reports of harmful interference during the trials. While there are 2000+ comments from United States Amateurs, none of them indicated that they are experiencing BPL interference from these trials. All comments are based on "potential for interference".

The ARRL comments clearly state that, all of the field tests have been performed on systems outside the United States. (See #20 of their comments – July 7th, 2003.) They also indicate "it is unclear that the United States test sites represent configurations of access BPL system that could or would be deployed in the United States, and therefore it is unclear whether any interference testing at those sites would be relevant, much less conclusive."

Not to discount the issues that Amateurs are having in other countries, the purpose of the United States field trails is to assure that there are no issues in the United States. UPLC indicates that there are nine trial installations. The ARRL's statement that these do not represent typical installations in the United States is erroneous. While they cannot represent all installations, they certainly represent typical installations. The ARRL uses the complaints in other countries that have very different power distribution systems as a basis of its risk assessment. Additionally, there is no indication that the BPL signals and coupling methods are the same in these countries as what would be used in the United States. It is actually more correct to question if the installations in other countries and their reported issues relate to what can happen in the United States. Fortunately, this can actually be determined with real data. Field measurements by AMRAD and Ameren indicate that there was no detectable interference. There are no comments to the contrary. In addition, there are no comments detailing issues with PLC interference. While calculations and gut feeling are appropriate reasons to raise questions, the FCC sanctioned field trials provide real data that should be used to determine if any changes need to be made to Part 15.

The concept of a Line Impedance Stabilization Network, LISN, will be challenging. However, a standard can be developed. It should be based on all physical factors, provided by an open standards process such that appropriate factors can be incorporated. The LISN must be based on a reasonable distribution type line that could actually be built even it does not reflect the majority of the ones in service. The LISN as well as any modulation standards should be developed by industry and or qualified standards organizations. These standards should be reviewed by the FCC but not created by the FCC. Any modulation artifacts created by the LISN would be subject to Part 15 rules.

Based on the comments submitted to the FCC, Part 15 rules do not require any technical rule changes to specifically accommodate BPL emissions. Additionally no changes are needed with regard to PLC emissions or equipment certification.

Respectfully submitted,
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